C-A OPERATIONS PROCEDURES MANUAL

ATTACHMENT

4.120.72.b LINAC Gate Tests

C-A-OPM Procedures in which this Attachment is used.		
4.120.72		

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials
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Approved: _____*Signature on File*_____ _____
Collider-Accelerator Department Chairman   Date

V. Castillo

PASS ANNUAL ACCEPTANCE TEST PROTOCOL

Division A Software Filename and Checksum: Title:_____ **Checksum:** _____

Division B Software Filename and Checksum: Title:_____ **Checksum:** _____

Initial testing complete:

Test Team Leader's Name (Print): _____ **Life Number:** _____

Test Team Leader's Name (Sign): _____ **Date:** _____/_____/_____

Acceptance test procedure complete (following repairs and retesting if required):

Test Team Leader's Name (Print): _____ **Life Number:**_____

Test Team Leader's Name (Sign): _____ **Date:** _____/_____/_____

Test results reviewed by:

Safety Section Head's Name (Print):_____ **Life Number:** _____

Safety Section Head's Name (Sign):_____ **Date:** _____/_____/_____

Test results accepted by Radiation Safety Committee:

RSC Member's Name (Print):_____ **Life Number:** _____

 RSC Member's Name (Sign):_____ **Date:** _____/_____/_____

1.1   **CONDUCT**   Visual check on **LINAC** doors following Table-1, below

Gate	Micro Switch		Verify Elec Wiring OK	Verify Gate Box OK	Verify Open/Close Fctns OK	Verify all x's Corr.	Inspn OK Init.
	Verify Align OK	Verify Opern OK					
AGS/HEBT	☐	☐	☐	☐	☐	☐	
HEBT	☐	☐	☐	☐	☐	☐	
BLIP	☐	☐	☐	☐	☐	☐	
PLUG	☐	☐	☐	☐	☐	☐	
Plug Door Swing (PDS)	☐	☐	☐	☐	☐	☐	
Tank9	☐	☐	☐	☐	☐	☐	
Tank1	☐	☐	☐	☐	☐	☐	

Legend: Tick = O.K.   x = Problem   N/A = Not Applicable

Table 1: Summary of Physical Inspection of LINAC Gates

☐   **Check for acceptance of Visual check on LINAC gates**

1.2   **Test of AGS/HEBT (A/H) gate**

☐   **VERIFY**   Hardware ☐, Electrical ☐ at **A/H** gate is   **O.K.**
     PLACE   Linac in Restricted Access **(RA)** at encl **4880** with **BNL-3** key and **green** P/B
☐   **VERIFY**   Linac is in   **RA**

☐   **VERIFY**   Attempt to open **A/H** gate with **AA256** key from **AGS** side   **SUCCESSFUL**

     OPEN   Crash Glass **switch**
☐   **VERIFY**   At **encl 4880** relay **EK10** is   **OFF**
☐   **VERIFY**   **A/H Crash** light at encl **4880** is   **ON**
☐   **VERIFY**   **Crash** light at **A/H gate** is   **OFF**
     CLOSE   Crash Glass **switch** and **leave closed**
☐   **VERIFY**   At encl 4880 relay **EK10** is   **ON**
☐   **VERIFY**   **A/H Crash** light at encl **4880** is   **OFF**
☐   **VERIFY**   **Crash** light at **A/H gate** is   **ON**

     HOLD   **Gate** MS and Electric Strike **(ES)**   **CLOSED**
☐   **VERIFY**   **Gate** lamp ☐ and **ES** lamp ☐ are   **ON**
     OPEN   **Gate** MS
☐   **VERIFY**   **Gate** lamp ☐ and **ES** lamp ☐ are   **OFF**
     CLOSE   **Gate** MS and **hold**   **CLOSED**

☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**ON**
	OPEN	**ES**	
☐	**VERIFY**	**Gate** lamp is	**ON**
☐	**VERIFY**	**ES** lamp is	**OFF**
	OPEN	**A/H** gate	
	CLOSE	Gate **redundant (GR)** microswitch (MS)	
☐	**VERIFY**	At encl 4880 relay **EK11** is	**ON**
☐	**VERIFY**	At encl 4880 A/H **N/Closed** light is	**OFF**
	OPEN	**GR** MS	
☐	**VERIFY**	At encl 4880 relay **EK11** is	**OFF**
☐	**VERIFY**	At encl 4880 A/H **N/Closed** light is	**ON**
	CLOSE	**A/H** gate	
☐	**VERIFY**	**A/H** gate is	**CLOSED**
	PLACE	Linac in Controlled Access **(CA)** at encl **4880** with **BNL-3** key and **P/B**	
☐	**VERIFY**	Linac is in	**CA**
☐	**VERIFY**	At **A/H** gate-box **N/Reset** light is	**ON**
☐	**VERIFY**	At **A/H** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relay **EK9** is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Reset** light is	**ON**
	RESET	**A/H** Gate with **BNL-3** key	
☐	**VERIFY**	At **A/H** gate-box **N/Reset** light is	**ON**
☐	**VERIFY**	At **A/H** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relay **EK9** is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Reset** light is	**ON**
☐	**VERIFY**	Attempt to open gate with **MCR S/R** and **AA256** key from **AGS** side	**SUCCESSFUL**
☐	**VERIFY**	At **A/H** gate-box **N/Reset** light is	**ON**
☐	**VERIFY**	At **A/H** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relay **EK9** is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Reset** light is	**ON**
	CLOSE	**A/H** gate	

☐ **Check for acceptance of Test of AGS/HEBT gate**

1.3 Test of HEBT gate

☐	**VERIFY**	Hardware ☐, Electrical ☐ at **HEBT** gate is	**O.K.**
	PLACE	Linac in Restricted Access **(RA)** at encl **4880** with **BNL-3** key and **green** P/B	
☐	**VERIFY**	Linac is in	**RA**
☐	**VERIFY**	Attempt to open **HEBT** gate with **local P/B**	**SUCCESSFUL**
	OPEN	Crash Glass **switch**	
☐	**VERIFY**	**Crash** light at **HEBT** gate	**OFF**
	CLOSE	Crash Glass **switch** and **leave closed**	
☐	**VERIFY**	**Crash** light at **HEBT** gate is	**ON**
	HOLD	**Gate** MS and Electric Strike **(ES)**	**CLOSED**

☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**ON**
	OPEN	**Gate** MS	
☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**OFF**
	CLOSE	**Gate** MS and **hold**	**CLOSED**
☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**ON**
	OPEN	**ES**	
☐	**VERIFY**	**Gate** lamp is	**ON**
☐	**VERIFY**	**ES** lamp is	**OFF**
	OPEN	**HEBT** gate	
	CLOSE	Gate **redundant (GR)** microswitch (MS)	
☐	**VERIFY**	At encl 4880 relay **IK12** is	**ON**
☐	**VERIFY**	At encl 4880 **HEBT N/Closed** light is	**OFF**
	OPEN	**GR** MS	
☐	**VERIFY**	At encl 4880 relay **IK12** is	**OFF**
☐	**VERIFY**	At encl 4880 **HEBT N/Closed** light is	**ON**
	CLOSE	**HEBT** gate	
☐	**VERIFY**	**HEBT** gate is	**CLOSED**
	PLACE	Linac in Controlled Access **(CA)** at encl **4880** with **BNL-3** key and **P/B**	
☐	**VERIFY**	Linac is in	**CA**
☐	**VERIFY**	**HEBT** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relays **FK1** ☐ and **FK8** ☐ are	**OFF**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**ON**
	RESET	**HEBT** Gate with **ME-17** key	
☐	**VERIFY**	**HEBT** gate-box **Reset** light is	**ON**
☐	**VERIFY**	At encl 4880 relay **FK1** ☐ and **FK8** ☐ are	**ON**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**OFF**
☐	**VERIFY**	Attempt to open gate with **local P/B**	**SUCCESSFUL**
☐	**VERIFY**	At **HEBT** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relay **FK1** ☐ and **FK8** ☐ are	**OFF**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**ON**
	CLOSE	**HEBT** gate	

☐   **Check for acceptance of Test of HEBT gate**

1.4 Test of BLIP gate

☐	**VERIFY**	Hardware ☐, Electrical ☐ at **BLIP** gate is	**O.K.**
	PLACE	Linac in Restricted Access **(RA)** at encl **4880** with **BNL-3** key and **green** P/B	
☐	**VERIFY**	Linac is in	**RA**
☐	**VERIFY**	Attempt to open **BLIP** gate with **local P/B**	**SUCCESSFUL**
	OPEN	Crash Glass **switch**	
☐	**VERIFY**	At **encl 4880** relay **IK13** is	**OFF**
	CLOSE	Crash Glass **switch** and **leave closed**	
☐	**VERIFY**	At encl 4880 relay **IK13** is	**ON**

HOLD		**Gate** MS and Electric Strike **(ES)**	**CLOSED**
☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**ON**
	OPEN	**Gate** MS	
☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**OFF**
	CLOSE	**Gate** MS and **hold**	**CLOSED**
☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**ON**
	OPEN	**ES**	
☐	**VERIFY**	**Gate** lamp is	**ON**
☐	**VERIFY**	**ES** lamp is	**OFF**
	OPEN	Gate **redundant (GR)** microswitch	
☐	**VERIFY**	At encl 4880 relay **IK13** is	**OFF**
☐	**VERIFY**	At encl 4880 **BLIP** Door Redun. N/Closed light is	**ON**
☐	**VERIFY**	**GR** light at **BLIP** gate is	**OFF**
	CLOSE	**GR** MS	
☐	**VERIFY**	At encl 4880 relay **IK13** is	**ON**
☐	**VERIFY**	At encl 4880 **BLIP** Door Redun. N/Closed light is	**OFF**
☐	**VERIFY**	**GR** light at **BLIP** gate is	**ON**
	CLOSE	**BLIP** gate	
☐	**VERIFY**	**BLIP** gate is	**CLOSED**
	PLACE	Linac in Controlled Access **(CA)** at encl **4880** with **BNL-3** key and **P/B**	
☐	**VERIFY**	Linac is in	**CA**
☐	**VERIFY**	At **BLIP** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relays **IK9** ☐ and **EK4** ☐ are	**OFF**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**ON**
	RESET	**BLIP** Gate with **ME-17** key	
☐	**VERIFY**	At **BLIP** gate-box **Reset** light is	**ON**
☐	**VERIFY**	At encl 4880 relays **IK9** ☐ and **EK4** ☐ are	**ON**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**OFF**
☐	**VERIFY**	Attempt to open gate with **MCR S/R** and **local P/B**	**SUCCESSFUL**
☐	**VERIFY**	At **BLIP** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relays **IK9** ☐ and **EK4** ☐ are	**OFF**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**ON**
	CLOSE	**BLIP** gate	

☐   **Check for acceptance of Test of BLIP gate**

1.5 Test of Plug Door (PD)Gate

☐	**VERIFY**	Hardware ☐, Electrical ☐ at **PD** gate is	**O.K.**
	PLACE	Linac in Restricted Access **(RA)** at encl **4880** with **BNL-3** key and **green** P/B	
☐	**VERIFY**	Linac is in	**RA**
☐	**VERIFY**	Attempt to open **PD** gate with **BNL-3** key	**SUCCESSFUL**
	OPEN	**Outside** Crash Glass box **switch**	
☐	**VERIFY**	At **encl 4880** relay **EK1** is	**OFF**
☐	**VERIFY**	**PD** Gate Crash light at encl **4880** is	**ON**

☐	**VERIFY**	**Crash** light at **PD** gate	**OFF**
	CLOSE	**Outside** Crash Glass **switch** and **leave closed**	
☐	**VERIFY**	At encl 4880 relay **EK1** is	**ON**
☐	**VERIFY**	**PD** Gate Crash light at encl **4880** is	**OFF**
☐	**VERIFY**	**Crash** light at **PD** gate is	**ON**
	OPEN	**Inside** Crash Glass box **switch**	
☐	**VERIFY**	At **encl 4880** relay **EK1** is	**OFF**
☐	**VERIFY**	**PD** Gate Crash light at encl **4880** is	**ON**
☐	**VERIFY**	**Crash** light at **PD** gate	**OFF**
	CLOSE	**Inside** Crash Glass **switch** and **leave closed**	
☐	**VERIFY**	At encl 4880 relay **EK1** is	**ON**
☐	**VERIFY**	**PD** Gate Crash light at encl **4880** is	**OFF**
☐	**VERIFY**	**Crash** light at **PD** gate is	**ON**
	CLOSE	**Both PD Gate** MS	
☐	**VERIFY**	At **PD** gate **Door Switch** light is	**ON**
	RELEASE	**Left PD gate** MS	
☐	**VERIFY**	At **PD** gate **Door Switch** light is	**OFF**
	CLOSE	**Both PD Gate** MS	
☐	**VERIFY**	At **PD** gate **Door Switch** light is	**ON**
	RELEASE	**Right PD gate** MS	
☐	**VERIFY**	At **PD** gate **Door Switch** light is	**OFF**
	OPEN	Gate **redundant (GR)** MS near Swing gate	
☐	**VERIFY**	At encl 4880 relay **EK2** is	**OFF**
☐	**VERIFY**	At encl 4880 **PD** Door Redun. N/Closed light is	**ON**
☐	**VERIFY**	**GR** light at **PD** gate is	**OFF**
	CLOSE	**GR** MS	
☐	**VERIFY**	At encl 4880 relay **EK2** is	**ON**
☐	**VERIFY**	At encl 4880 **PD** Door Redun. N/Closed light is	**OFF**
☐	**VERIFY**	**GR** light at **PD** gate is	**ON**
	CLOSE	**PD** gate	
☐	**VERIFY**	**Alarm** sounds while **PD** is	**CLOSING**
☐	**VERIFY**	**PD** is	**CLOSED**
	PLACE	Linac in Controlled Access **(CA)** at encl **4880** with **BNL-3** key and **P/B**	
☐	**VERIFY**	Linac is in	**CA**
☐	**VERIFY**	At **PD** gate-box **N/Reset** light is	**ON**
☐	**VERIFY**	At **PD** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relay **DK12** is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Reset** light is	**ON**
	RESET	**PD** Gate with **ME-17** key	
☐	**VERIFY**	At **PD** gate-box **N/Reset** light is	**OFF**
☐	**VERIFY**	At **PD** gate-box **Reset** light is	**ON**
☐	**VERIFY**	At encl 4880 relay **DK12** is	**ON**
☐	**VERIFY**	At encl 4880 **N/Reset** light is	**OFF**
☐	**VERIFY**	Attempt to open gate with **MCR S/R** to **start the process**	**SUCCESSFUL**
☐	**VERIFY**	**Alarm** sounds while **PD** is	**OPENING**
☐	**VERIFY**	At **PD** gate-box **Reset** light is	**OFF**

☐	**VERIFY**	At encl 4880 relay **DK12** is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Reset** light is	**ON**

	TRIP	PD **Emergency stop bar**	
☐	**VERIFY**	PD **stops**	**OPENING**

	RESUME	PD opening	
☐	**VERIFY**	PD **continues** to	**OPEN**
	LEAVE	PD **open**	

☐ **Check for acceptance of Test of Plug Door gate**

1.6 Test of Plug Door Swing (PDS) gate

☐	**VERIFY**	Hardware ☐, Electrical ☐ at **PDS** gate is	**O.K.**

	PLACE	Linac in Restricted Access **(RA)** at encl **4880** with **BNL-3** key and **green** P/B	
☐	**VERIFY**	Linac is in	**RA**

☐	**VERIFY**	Attempt to open **PDS** gate with **AA256** key	**SUCCESSFUL**

	OPEN	Crash Glass **switch**	
☐	**VERIFY**	At encl 4880 relay **EK3** is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**ON**
	CLOSE	Crash Glass **switch**	
☐	**VERIFY**	At encl 4880 relay **EK3** is	**ON**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**OFF**

	OPEN	**PDS gate** switch	
☐	**VERIFY**	At encl 4880 relay **EK3** is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**ON**
	CLOSE	**PDS gate** switch	
☐	**VERIFY**	At encl 4880 relay **EK3** is	**ON**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**OFF**

	OPEN	**PDS** gate	
☐	**VERIFY**	At encl 4880 relay **EK3** is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**ON**
	CLOSE	**PDS** gate	
☐	**VERIFY**	At encl 4880 relay **EK3** is	**ON**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**OFF**

	PLACE	Linac in Controlled Access **(CA)** at encl **4880** with **BNL-3** key and **P/B**	
☐	**VERIFY**	Linac is in	**CA**
☐	**VERIFY**	Attempt to open **PDS** gate with **AA256** key with **NO** MCR S/R	**SUCCESSFUL**

☐ **Check for acceptance of Test of Plug Door Swing (PDS) gate**

1.7 Test of Tank 1 (TK1) gate

☐	**VERIFY**	Hardware ☐, Electrical ☐ at **TK1** gate is	**O.K.**
	PLACE	Linac in Restricted Access **(RA)** at encl **4880** with **BNL-3** key and **green** P/B	
☐	**VERIFY**	Linac is in	**RA**
☐	**VERIFY**	Attempt to open **TK1** gate with **AA256** key and **P/B** for **Slide-bolt**	**SUCCESSFUL**
	OPEN	Crash Glass **switch**	
☐	**VERIFY**	At **encl 4880** relay **DK4** is	**OFF**
☐	**VERIFY**	**TK1** Prime Crash light at encl **4880** is	**ON**
☐	**VERIFY**	**Crash** light at **TK1** gate	**OFF**
	CLOSE	Crash Glass **switch** and **leave closed**	
☐	**VERIFY**	At encl 4880 relay **DK4** is	**ON**
☐	**VERIFY**	**TK1** Prime Crash light at encl **4880** is	**OFF**
☐	**VERIFY**	**Crash** light at **TK1** gate is	**ON**
	HOLD	**Gate** MS and Electric Strike **(ES)**	**CLOSED**
☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**ON**
	OPEN	**Gate** MS	
☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**OFF**
	CLOSE	**Gate** MS and **hold**	**CLOSED**
☐	**VERIFY**	**Gate** lamp ☐ and **ES** lamp ☐ are	**ON**
	OPEN	**ES**	
☐	**VERIFY**	**Gate** lamp is	**ON**
☐	**VERIFY**	**ES** lamp is	**OFF**
	OPEN	Gate **redundant (GR)** MS	
☐	**VERIFY**	At encl 4880 relay **DK5** is	**OFF**
☐	**VERIFY**	At encl 4880 **TK1** Door Redun. N/Closed light is	**ON**
☐	**VERIFY**	**GR** light at **TK1** gate is	**OFF**
	CLOSE	**GR** MS	
☐	**VERIFY**	At encl 4880 relay **DK5** is	**ON**
☐	**VERIFY**	At encl 4880 **TK1** Door Redun. N/Closed light is	**OFF**
☐	**VERIFY**	**GR** light at **TK1** gate is	**ON**
	CLOSE	**TK1** gate	
☐	**VERIFY**	**TK1** gate is	**CLOSED**
	PLACE	Linac in Controlled Access **(CA)** at encl **4880** with **BNL-3** key and **P/B**	
☐	**VERIFY**	Linac is in	**CA**
☐	**VERIFY**	At **TK1** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relay **DK3** ☐ and **IK10** ☐ are	**OFF**
☐	**VERIFY**	At encl 4880 ☐ **N/Reset** light and at gate-box ☐ **N/Reset** is	**ON**
☐	**VERIFY**	At **TK1** gate-box **RF Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relay **DK6** is	**OFF**
	RESET	**TK1** Gate with **BNL-3** key	
☐	**VERIFY**	At **TK1** gate-box **Reset** light is	**ON**
☐	**VERIFY**	At encl 4880 relay **DK3** ☐ and **IK10** ☐ are	**ON**
☐	**VERIFY**	At encl 4880 ☐ **N/Reset** light and at gate-box ☐ **N/Reset** is	**OFF**
☐	**VERIFY**	At **TK1** gate-box **RF Reset** light is	**ON**
☐	**VERIFY**	At encl 4880 relay **DK6** is	**ON**

	VERIFY	**DK2,** Linac Safely OFF, is	**ON**
☐	VERIFY	**DK2,** Linac Safely OFF, is	**ON**
☐	VERIFY	Attempt to open gate with **MCR S/R, BNL-3** key for **Slide-bolt** and **ME-17** key	**SUCCESSFUL**
	CLOSE	**TK1** gate	
☐	VERIFY	At **TK1** gate-box **Reset** light is	**ON**
☐	VERIFY	At encl 4880 relay **DK3** ☐ and **IK10** ☐ are	**ON**
☐	VERIFY	At encl 4880 ☐ **N/Reset** light and at gate-box ☐ **N/Reset** is	**OFF**
☐	VERIFY	At **TK1** gate-box **RF Reset** light is	**OFF**
☐	VERIFY	At encl 4880 relay **DK6** is	**OFF**
	PLACE	Linac in **RA** at encl **4880** with **BNL-3** key and **P/B**	
☐	VERIFY	Linac is in	**RA**
	PLACE	Linac in **RF** Controlled Access **(RFCA)** at encl **4880** with **ME-16** key turned **right**	
☐	VERIFY	Linac is in	**RFCA**
	RESET	**TK1** Gate with **ME-16** key for **RF**	
☐	VERIFY	At **TK1** gate-box **RF Reset** light is	**ON**
☐	VERIFY	At encl 4880 relay **DK6** is	**ON**
☐	VERIFY	Attempt to open gate with **MCR S/R, BNL-3** key for **Slide-bolt** and **ME-16** key	**SUCCESSFUL**
☐	VERIFY	At **TK1** gate-box **RF Reset** light is	**OFF**
☐	VERIFY	At encl 4880 relay **DK6** is	**OFF**
	CLOSE	**TK1** gate	

☐ **Check for acceptance of Test of TK1 gate**

1.8 Test of Tank 9 (TK9) gate

	VERIFY	Hardware ☐, Electrical ☐ at **TK9** gate is	**O.K.**
☐	VERIFY	Hardware ☐, Electrical ☐ at **TK9** gate is	**O.K.**
	PLACE	Linac in Restricted Access **(RA)** at encl **4880** with **BNL-3** key and **green** P/B	
☐	VERIFY	Linac is in	**RA**
☐	VERIFY	Attempt to open **TK9** gate with **P/B**	**SUCCESSFUL**
	HOLD	**Gate** MS and Electric Strike **(ES)**	**CLOSED**
☐	VERIFY	**Gate** lamp ☐ and **ES** lamp ☐ are	**ON**
	OPEN	**Gate** MS	
☐	VERIFY	**Gate** lamp ☐ and **ES** lamp ☐ are	**OFF**
	CLOSE	**Gate** MS and **hold**	**CLOSED**
☐	VERIFY	**Gate** lamp ☐ and **ES** lamp ☐ are	**ON**
	OPEN	**ES**	
☐	VERIFY	**Gate** lamp is	**ON**
☐	VERIFY	**ES** lamp is	**OFF**
	CLOSE	**TK9** gate	
☐	VERIFY	**TK9** gate is	**CLOSED**
	PLACE	Linac in Controlled Access **(CA)** at encl **4880** with **BNL-3** key and **P/B**	
☐	VERIFY	Linac is in	**CA**

☐	**VERIFY**	At **TK9** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relay **DK7** ☐ and **IK7** ☐ is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**ON**

RESET	**TK9** Gate with **ME-17** key for **beam**	

☐	**VERIFY**	At **TK9** gate-box **Reset** light is	**ON**
☐	**VERIFY**	At encl 4880 relay **DK7** ☐ and **IK7** ☐ are	**ON**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**OFF**

☐	**VERIFY**	Attempt to open gate with **MCR S/R** and **ME-17** key	**SUCCESSFUL**

CLOSE	**TK9** gate

RESET	**TK9** Gate with **ME-16** key for **RF**

☐	**VERIFY**	At **TK9** gate-box **Reset** light is	**ON**
☐	**VERIFY**	At encl 4880 relay **IK3** is	**ON**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**OFF**

☐	**VERIFY**	Attempt to open gate with **MCR S/R** and **ME-16** key	**SUCCESSFUL**

☐	**VERIFY**	At **TK9** gate-box **Reset** light is	**OFF**
☐	**VERIFY**	At encl 4880 relay **IK3** is	**OFF**
☐	**VERIFY**	At encl 4880 **N/Locked** light is	**ON**
	CLOSE	**TK9** gate	

☐   **Check for acceptance of Test of TK9 gate**

1.9   Test of MCR Simultaneous Release

	GIVE	**Simultaneous Release** from **MCR**	
☐	**VERIFY**	At encl 4880 relay **BK8** is	**ON**

☐   **Check for acceptance of Test of MCR Simultaneous Release.**

<div align="center">

END OF TEST PROCEDURE

</div>

TTL: Sign for completion of initial testing: _____

<div align="right">

Date: _____/_____/_____

</div>

TTL: Sign for completion of final testing: _____

<div align="right">

Date: _____/_____/_____

</div>